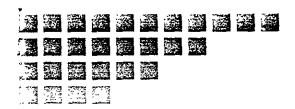
STID 1385 must he goods must must be to



April 6, 1994 SCI 727.001

Mr. Dante Sambajon Plant Engineer Coulter Steel and Forge Company 1494 - 67th Street Emeryville, California 94662-0901

Quarterly Groundwater Monitoring Sampling Event - February 1994 Coulter Steel and Forge Company 722 Folger Avenue/Diesel Fuel Area Emeryville, California

Dear Mr. Sambajon:

This letter records the results of the fourth sampling event conducted by Subsurface Consultants, Inc. (SCI) for the groundwater monitoring program at the referenced site. In May 1992, SCI performed an investigation of the tank area by drilling 7 test borings, 4 of which were completed as monitoring wells. December 2, 1993 an additional groundwater monitoring well was installed in the parking lane along Folger Avenue upgradient of the tank area. The previous tank area and well locations area shown on the attached Site Plan, Plate 1.

ALCO HAZMAT

94 APR 11 Pil 1:54

Groundwater Monitoring

Groundwater monitoring was conducted on February 22 and 23, 1994. For this sampling event, all five on-site wells (MW-3, MW-4, MW-5, MW-6, and MW-8) were sampled. Initially, the depth to groundwater and the presence of free product were checked with a steel tape, and water and petroleum product sensitive pastes. Groundwater level measurements are presented on Table 1.

Prior to sampling, the wells were purged of at least three well volumes of water. Measurements of water temperature, pH and conductivity were recorded at various intervals during the purge process. Well sampling forms are attached.

Subsurface Consultants, Inc.

Subsurface Consultants, Inc. The depth to water in each well was checked, following purging and before sampling, to assure that the wells had recharged to at least 80 percent of their initial volume. The wells were then sampled using new disposable bailers. The samples were retained in containers pre-cleaned by the supplier in accordance with EPA protocol. The samples were placed in an ice filled cooler and transmitted to Curtis & Tompkins, Ltd. The testing program for this event included the following analyses:

- 1. Total Extractable Hydrocarbons as diesel (TEH) (EPA 5030/8015), and
- 2. Benzene, toluene, ethylbenzene and xylene (BTEX) (EPA 5030/602).

The results of all analytical testing events are presented on Table 2. Analytical test reports and Chain-of-Custody documents for the current event are attached.

Conclusions

Groundwater Gradient

Based on the data presented on Table 1, it appears that the groundwater flow direction is towards the southwest under a gradient of about 2.8 percent. This data is consistent with previous findings. The groundwater flow contours and direction for this event are shown on Plate 1.

<u>Diesel Contamination</u>

In general, data from the quarterly monitoring events indicate that groundwater in a limited area around the previous tank site has been impacted by diesel. The upgradient and downgradient extent of the plume have been determined as required by Alameda County Health Care Services Agency's request of September 20, 1993. Neither TEH as diesel nor BTXE were detected in the groundwater sample obtained from the upgradient well, MW-8 during the last two events. The downgradient well, MW-6 has shown no significant impact since it was installed in 1992.

In accordance with the monitoring program, the next sampling event will be performed during the month of May 1994. During the event, all the wells will be sampled and analyzed for TEH and BTEX.

Monitoring Program

The monitoring program will be reevaluated by the ACHCSA following the event scheduled for August 1994. Presently, regulatory agencies are moving toward adopting a policy which recognizes that an acceptable management strategy for protection of beneficial uses Subsurface Consultants, Inc. of groundwater would include allowing sites with a limited zone of groundwater pollution to not achieve water quality cleanup criteria and possibly obtain conditional closure. There are acceptance criteria which a site must meet before being considered for this approach. Once accepted the site must adhere to a negotiated plan for containing and managing the risks posed by residual groundwater pollution. The plan may involve institutional controls (i.e., deed restrictions, utility worker notice), contingency options and participation in a regional monitoring program. From a preliminary standpoint, it is possible that the diesel tank area may be considered for this process in the future, in lieu of continued quarterly groundwater monitoring.

If you have any questions, please call.

Yours very truly,

Subsurface Consultants, Inc.

Julenn M. Alexander
Jeriann N. Alexander

Civil Engineer 40469 (expires 3/31/95)

JNA: RWR: jmw

2 copies submitted

Attachments: Site Plan - Plate 1

Table 1 - Groundwater Elevations

Table 2 - Summary of Contaminants in Groundwater

Analytical Test Reports Chain-of-Custody Documents Groundwater Sampling Forms

cc: Ms. Susan Hugo

Hazardous Materials Specialty

Alameda County Health Care Services Agency

80 Swan Way

Oakland, California 94612

Mr. Rich Hiett Regional Water Quality Control Board 2101 Webster Street, Suite 500 Oakland, California 94612

Table 1. Groundwater Elevation Data

Well	TOC Elevation ¹ (feet)	Date	Groundwater Depth ² (feet)	Groundwater Elevation (feet)
MW-3	24.70	5/15/92	11.15	13.55
1211 5	24.70	7/01/92	11.60	13.10
		8/18/92	12.00	12.70
		3/04/93	9.79	14.91
		6/08/93	10.47	14.23
		11/04/93	12.05	12.65
		12/06/93	11.62	13.08
		02/23/94	10.12	14.58
MW-4	23.92	5/15/92	10.00	13.92
		7/01/92	11.26	12.66
		8/18/92	11.58	12.34
		3/04/93	9.39	14.53
		6/08/93	10.01	13.91
		11/04/93	11.53	12.39
		12/06/93	11.11	12.81
		02/23/94	9.63	14.29
MW-5	23.85	5/15/92	10.52	13.33
		7/01/92	9.93	13.92
		8/18/92	9.24	14.61
		3/05/93	7.72	16.15
		6/08/93	8.31	15.54
		11/04/93	10.33	13.52
		12/06/93	9.91	13.94
		02/23/94	8.23	15.62
MW-б	22.98	5/15/92	12.46	10.52
		7/01/92	12.96	10.02
		8/18/92	13.42	9.56
		3/04/93	11.60	11.38
		6/08/93	12.34	10.64
		11/04/93	13.62	9.36
		12/06/93	13.08	9.90
		02/23/94	11.78	11.20
MW-8	23.85	12/06/93	9.07	14.15
		02/23/94	7.93	15.92
• •		,,		_ •-•

Reference datum is City of Berkeley Survey Monument on Folger Avenue as shown on Site Plan Measured below top of casing

Table 2. TEH and BTEX Concentrations in Groundwater

Sample	Date	Teh ug/l	B ug/1	T ug/l	E <u>ug/l</u>	x ug/l
MW-3	5/15/92	100	<0.5	<0.5	<0.5	2.5
	8/18/92	<50	<0.5	<1.0	<0.5	<0.5
	3/04/93	<50	<0.5	<0.5	<0.5	<0.5
	6/08/93	<50	<0.5	<0.5	<0.5	<0.5
	11/04/93	_60	<0.5	0.6	<0.5	1.2
	02/23/94	1600	<0.5	<0.5	<0.5	<0.5
MW-4	5/15/92	10,000	<0.5	<0.5	<0.5	4.0
	8/18/92	300	<0.5	<1.0	<0.5	<0.5
	3/04/93	<50	<0.5	<0.5	<0.5	<0.5
	6/08/93	190	<0.5	<0.5	<0.5	<0.5
	11/04/93	<50	0.5	0.5	<0.5	0.9
	02/23/94	<50	<0.5	<0.5	<0.5	<0.5
MW-5	5/15/92	510	<0.5	<1.0	<0.5	<0.5
	8/18/92	<50	<0.5	<1.0	<0.5	<0.5
	3/05/93	1,400	<0.5	<0.5	<0.5	<0.5
	6/08/93	1,300	<0.5	<0.5	<0.5	<0.5
	11/04/94	930	<0.5	0.5	<0.5	0.9
	02/23/94	3,100	<0.5	<0.5	<0.5	<0.5
MW-6	5/15/92	<50	<0.5	<0.5	<0.5	2.0
	8/18/92	<50	<0.5	<1.0	<0.5	<0.5
	3/04/93	<50	<0.5	<0.5	<0.5	<0.5
	6/08/93	<50	<0.5	<0.5	<0.5	<0.5
	11/04/93	<50	<0.5	<0.5	<0.5	0.7
	02/23/94	<50	<0.5	<0.5	<0.5	<0.5
MW-8	12/06/93	<50	<0.5	<0.5	<0.5	<0.5
	02/23/94	<50	<0.5	<0.5	<0.5	<0.5

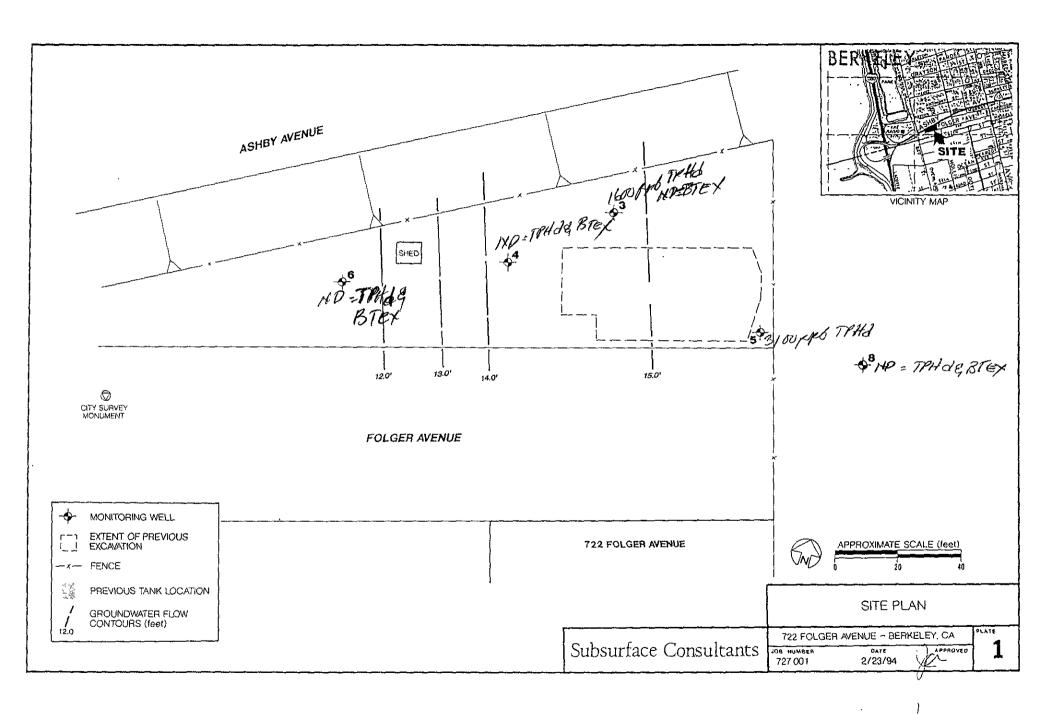
ug/l = micrograms per liter, parts per billion
TEH = Total extractable hydrocarbons

B = benzene

T = toluene

[•] E = ethylbenzene

X = xylenes





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

Subsurface Consultants 171 12th Street Suite 201 Oakland, CA 94608

Date: 02-MAR-94

Lab Job Number: 114498 Project ID: 727.001

Location: Coulter Steel

This package may be reproduced only in its entirety.



LABORATORY NUMBER: 114498

CLIENT: SUBSURFACE CONSULTANTS

PROJECT ID: 727.001

LOCATION: COULTER STEEL

DATE SAMPLED: 02/23,24/94

DATE RECEIVED: 02/24/94
DATE EXTRACTED:03/01/94
DATE ANALYZED: 03/01,02/94
DATE REPORTED: 03/02/94

Extractable Petroleum Hydrocarbons in Aqueous Solutions
California DOHS Method
LUFT Manual October 1989

LAB ID	CLIENT ID	KEROSENE RANGE (ug/L)	DIESEL RANGE (ug/L)	REPORTING LIMIT (ug/L)
114498-001	MW-3	**	1,600	50
114498-002	MW-4	ND	ND	50
114498-003	MW-5	**	3,100	50
114498-004	MW-6	ND	ND	50
114498-005	MW-8	ND	ND	50

ND = Not detected at or above reporting limit. Reporting limit applies to all analytes.

** Kerosene range not reported due to overlap of hydrocarbon ranges.

QA/QC SUMMARY:

RPD, %	6
RECOVERY, %	88



LABORATORY NUMBER: 114498

CLIENT: SUBSURFACE CONSULTANTS

PROJECT ID: 727.001 LOCATION: COULTER STEEL DATE SAMPLED: 02/23,24/94 DATE RECEIVED: 02/24/94 DATE ANALYZED: 02/28/94

DATE REPORTED: 02/28/94

Benzene, Toluene, Ethyl Benzene, Xylenes by EPA 8020 Extraction by EPA 5030 Purge and Trap

LAB ID	CLIENT ID	BENZENE (ug/L)	TOLUENE	ETHYL BENZENE (ug/L)	TOTAL XYLENES (ug/L)	REPORTING LIMIT (ug/L)
114498-001	MW-3	ND	ND	ND	ND	0.5
114498-002	MW-4	ND	ND	ND	ND	0.5
114498-003	MW-5	ND	ND	ND	ND	0.5
114498-004	MW-6	ND	ND	ND	ND	0.5
114498-005	MW-8	ND	ND	ND	ND	0.5

ND = Not detected at or above reporting limit.

Reporting Limit applies to all analytes.

QA/QC SUMMARY

RPD, %
RPD, % 5

CHAIN OF CUSTODY FORM	PAGE	1 OF 1
PROJECT NAME: COUTER STEE! JOB NUMBER: 727.001 LAB: LAB: CUTTIS & To motion! PROJECT CONTACT: Ser: Alexander / John Wolfe TURNAROUND: Maimal SAMPLED BY: John Wolfe / C. Pealson REQUESTED BY: John Wolfe) sessi	TALIGO ILLAGEO
LABORATORY SAMPLE NUMBER NUMBE	TEH 00	
10. NOMBER		
CHAIN OF CUSTODY RECORD RELEASED BY: (Signature) DATE / TIME RECEIVED BY: (Signature) Clashafter 3-24-94 (355) RELEASED BY: (Signature) DATE / TIME RECEIVED BY: (Signature) DATE / TIME DATE / TIME		
RELEASED BY: (Signaluro) DATE / TIME RECEIVED BY: (Signaluro) DATE / TIME SUBSUITACE CO	ONKLAND	CALIFORNIA 94807

Project Name: 722	FOLGER A	VENUE		Well Nur	mber: <u>MW</u>	. 3	
Job No.:72		Well Cas		inch			
Sampled By:		Date: _					
TOC Elevation:				Weather	: Sunny		
Depth to Casing Bot	tom (below T	OC)		30			feet
Depth to Groundwat							
Feet of Water in We		•					
Depth to Groundwat						·	
Casing Volume (feet		-	,		The state of the s		_
Depth Measurement	Method	Tape & I	Paste /	Electro	nic Sounder	/ Other	
Free Product	Alas	<u>C</u>					
Purge Method	3216	sasable is	ca.icr	· <u> </u>			
Gallons Removed	рН <u>< 9 3</u>	Temp (°c) =	0.25 v	os/cm) - <u>/ 200</u>	Salinity S%	clear	nments
<u> </u>	5.22	61.0					7-1610
7	5/22	60,9	0,41 7,44			<u> </u>	
	520	109				e lee cle	
<u> </u>	5,31	60,9	\$013A				ar
Total Gallons Purged			<u>8</u>				- gallons
Depth to Groundwate	r Before San	npling (below T	OC)	17	2.20		feet
Sampling Method	<u> 15005</u>	able bo	Ma			· · · · · · · · · · · · · · · · · · ·	
Containers Used	3		1	-	-		
	40 ml		liter		pint		
nhauefoss	Cons	ultonto	722 F	OLGER A	VENUE - BERK	ELEY, CA	PLATE
ubsurface	Cons	unams		-	DATE CACCA	APPROV	ED
		-	727.001		2/23/94		

Project Name: 72	2 FOLGER A	VENUE	Well Nu	mber:		
Job No.: 72	Well Ca	Well Casing Diameter:				
Sampled By:				2/23/94		
TOC Elevation:	23,9	2	Weathe	u: <u> </u>	Lucis	
Depth to Casing Bo	ttom (below T	OC)	30			feet
Depth to Groundwa	ter (below TO	C)	0. '	3		feet
Feet of Water in We	ell		20,	37		feet
Depth to Groundwa	ter When 80%	& Recovered	16 . 3	29		feet
Casing Volume (fee						
			aste / Electro			
Free Product			-			
Purge Method						
Gallons Removed						
			1.15 2.112			
			(2.38)		<u> </u>	
G			10.74			
2	(D) - (C)		,		4160	
9	<u> </u>				<u>cleve</u>	
•	2.7. 7.5.0	60,4	70.50		<u> </u>	
Total Gallons Purged	2.20 7.4.8	60,4				
		apling (below To		,50 <u> </u>		
Total Gallons Purged Depth to Groundwate Sampling Method		npling (below To	oc)			lons
Depth to Groundwate Sampling Method	er Before Sam	d15005a1	ole parler			lons
Depth to Groundwate Sampling Method	er Before Sam	d15005a1	oc)			lons
Depth to Groundwate Sampling Method Containers Used	er Before Sam 3 40 ml	015Pasci	ole bailer L liter		ga	lons
Depth to Groundwate	er Before Sam 3 40 ml	015Pasci	ole bailer L liter	pint	ga	lons

Project Name: 722	FOLGER A	VENUE	Weli	Well Number:				
Job No.: 72	7.001		Well	_2	inch			
Sampled By: \(\frac{1}{2} \civ_1	- Wolfe/	Chaile Do	nate Date	: 2/23/94				
TOC Elevation:	TOC Elevation: 2.3.85			ther: <u>500 a </u>	Can !!!			
Depth to Casing Bot	tom (below 7	- - - -	2	>		feet		
Depth to Groundwate				7,23				
				7 7		_		
Feet of Water in Wel								
Depth to Groundwate				.42				
Casing Volume (feet	of water x C	Casing DIA 2 x (0.0408)	, (m) <u></u>		gallons		
Depth Measurement	Method	Tape &	Paste / Ele	ctronic Sounder	/ Other			
Free Product			none					
Purge Method			15. 605.00 h 45	haven				
Gallons Removed	•	Temp (°c)	Conductivity (micromhos/cm)	Salinity S%	C) c.e			
			<u> 1777 </u>					
1=,	<u> </u>	61.3	1.55		<u> </u>	<i>key</i>		
	27.62	<u> </u>	<u> </u>			.ఎక్∀ ^ప ≼ైల		
	4,52 5,00		1,76		clear			
Total Gallons Purged			6			gallons		
Depth to Groundwate	er Before Sai	mpling (below 1	TOC)			feet		
Sampling Method			iccoscebie ho	Jer				
Containers Used	<u>3</u>		liter	pint				
	slow R	ECHARGO	= WAIT	24 hours				
ubsurface			722 FOLGE	R AVENUE - BERKE	ELEY, CA	PLATE		
uvsultace	COHS	unams	JOS NUMBER 727.001	DATE 2/23/94	APPROVE	٥		

		/ENUE		Well Nur	nber:		
Job No.: 727.001				Well Cas	2	inch	
Sampled By:	Flow Ansl	6/ (mash	Prairie	Date: _	2/23/94		
TOC Elevation:	22.0	<u> </u>		Weather	: <u> </u>	/warn	
Depth to Casing Bott	om (below TC	DC)		30			
Depth to Groundwate		7 7	. <u>2</u> 4		feet		
Feet of Water in Well	l 			18	122		feet
Depth to Groundwate	er When 80%	Recovered .		1 4	1.78		feet
Casing Volume (feet	of water x Ca	asing DIA ² x 0).0408)	2	.,97		gallons
Depth Measurement	Method	Tape & F	Paste /	Electro	nic Sounder	/ Other	
Free Product		nar	16		Married Married Control of the Contr		
Purge Method		81500	sakk	ball	ar t		
			EASUREN Conduc	tivity			
Gallons Removed	pН	Temp (°c)	Conduc (micromb	tivity os/cm)	Salinity S%		nments
Sallons Removed	pH	Temp (°C) = 59,0	Conduction (micromholic 1145)	tivity os/cm)	Salinity S%	<u>C1</u>	nments
3	pH	Temp (°c) =	Conduction (micromholic 1145)	tivity os/cm)	Salinity S%	<u>C1</u>	- 1 T
3 2 5 C	pH	Temp (cc) = 50.75 50.75 50.75	Conduct (micromhi 11:4/5 x 11:90 12:14 1 12:40	tivity os/cm)	Salinity S%	C1	- 1 T
3 2 5 6 8	pH	Temp (cc) = 59.0 59.0 59.0	Conduction (micromholic 1145)	tivity os/cm)	Salinity S%	C1	car lcu(
3 2 3 C 8 Total Gallons Purged		Temp (%) = 50.1 59.0 50.3 59.6 6	Conduct (micromhi 11.415) 11.90 12.40 12.40	tivity os/cm)	Salinity S%	C1	car lcu(gallons
3 2 8 Total Gallons Purged Depth to Groundwater		Temp (%) = 59.0 59.0 59.6 6 6 6 6 6 6 6 6 6	Conduct (micromhi 11.415) 11.90 12.40 12.40	tivity os/cm)	Salinity S%	C1	car lcu(gallons
3 2 5 6		Temp (%) = 59.0 59.0 59.6 6 6 6 6 6 6 6 6 6	Conduct (micromhi 11.415, 11.90 12.40 12.40 12.5	tivity os/cm)		C1	ear

Project Name: 722	FOLGER A	/ENUE	W	ell Numb	er: <u> </u>		
Job No.: 727	.001	····	W	ell Casin	g Diameter: _		inch
Sampled By: Osh	n Walle	Marie Per	α <u>ιςον</u> Da	ate:	2/23/94		
TOC Elevation:						Marin	
Depth to Casing Botto	om (below T	OC)	2	<u> ۱. رسر</u>	١	<u> </u>	feet
Depth to Groundwate	r (below TO	O)		7 a	<u> </u>		_ feet
Feet of Water in Well			<u></u>	3,07	7		- feet
Depth to Groundwate	r When 80%	Recovered .	Į (0.46	<u> </u>		- feet
Casing Volume (feet							
			معي		and the second second		
Depth Measurement				Talkasa arang arang	Account the same of the same o		
Free Product							
Purge Method	hailer		12.03	Dia	· × 1		
Gallons Removed	pH _5.5.⊙		Conductivity (micromhos/c	cm)	Salinity S%	Comm	
- Company of the Comp			1.43			Slightly	
2.1	5,13	61.5	1.85				
5	5,13	62	144	 .		cles	<u> </u>
5-2	••	% *	• •			<u> </u>	<u>af</u>
Total Gallons Purged		<u> </u>	· 		<u> </u>		gallons
Depth to Groundwater	Before Sam	pling (below T	OC) ———	12.	2/		_ feet
Sampling Method		dispasal	be bail	10			
Containers Used	B		1				
	40 mi		liter		pint		
			700 501 5		NUC DENK	1 m/ 04	PLATE
Subsurface	Consi	ultants	722 FOLG	ALH AVE	DATE	LEY, CA	4
	·	, .	727.001	-	2/23/94		

CHAIN OF CU	HAIN OF CUSTODY FORM															РΛ	GE		1	-	OF			1							
																_]		 	ANA	LYSI	s ne	QUE	STE	<u> </u>	-						
PROJECT NAME: COUTER STEE! JOB NUMBER: 727.001 LAB: CUCTIS & TO MORTINS PROJECT CONTACT: Sec: Alexander (John Wolfe TURNAROUND: Normal SAMPLED BY: John Wolfe/C. Peason REQUESTED BY: John Wolfe																															
PROJECT CONTAC SAMPLED BY:	T: <u>Ser: Al</u>	Vo.	Re	10	. Peg	/sc		_ R	EQU:	EST	ED	в, . ВY:		İ	ohn_	<u>راه</u>	1+	~					1 02 01				,				
LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX				CONTAINERS					METHOD PRESERVED				SAMPLING DATE]]	7 2	1							
		X WATER Soil	WASTE	ELY		VOA	10 TOTAL	1788		<u> </u>	H2SO4	HNO3	<u> </u>	NONE	MONTH 2	DAY	YE	AR L	1 1		NOTES	717	X 13.75	, 			_	-		 	
	MW-3 MW-4 MW-5	X	_			3	1 -	-		- -		-	文 文		2 2 2	23 22 24 23	9	4 4	- -				Ź	X			— - — -	_ _ _ _		-	
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CHAIN OF CUSTODY RECORD RELEASED BY: (Signature) DATE / TIME RECEIVED BY: (Signature) DATE / TIME												_ - -	COMM	IEN 15	a ive	7,63	•														
RELEASED BY: (Signature) Clash Cipacity 2-24-94 (35) RELEASED BY: (Signature) DATE / TIME RECEIVED BY: (Signature) DATE / TIME DATE / TIME										3																					
RELEASED BY: (Signature) DATE / TIME RECEIVED BY: (Signature) D.									DA	TE/	TIM	Subsurface								Cc)1)	SI	11	_ taı	nt	s,	In	ıc	•		
RELEASED BY: (Signature) DATE / TIME					RECEIVED BY: (Signature) DATE / TIME																										